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Jervis B. Webb Company

Hoover's Company Profiles:

Jervis B. Webb Company

Type: Subsidiary
On the web: http://www.jervisbwebb.com

Contact Information

Jervis B. Webb Company
34375 W. Twelve Mile Rd.
Farmington Hills, MI 48331
MI Tel. 248-553-1000
Toll Free 800-526-9322
Fax 248-553-1228

Jervis B. Webb Company, aka Webb, has spun a global web of custom-engineered material-handling systems and maintenance support services. Through manufacturing facilities in North America, India, and China, the firm makes equipment used in multiple markets including automotive production, bulk and baggage handling, automated newsprint handling, beverage bottling, and furniture manufacturing. Products include conveyors, automatic guided vehicles, SmartCart, automated storage and retrieval systems, and loading vehicles. In 2007 Webb was acquired by the Japanese-based material-handling firm Daifuku, which expanded its international growth.

Officers:
Chairman and Co-CEO: Masaki Hojo
President and Co-CEO: Brian G. Stewart
SVP and CFO: John Doychich

Competitors:
Dematic
G&T Conveyor
Paragon Technologies

Gale Directory of Company Histories:

Jervis B. Webb Company

Incorporated: 1919
SIC: 3535 Conveyors & Conveying Equipment

Jervis B. Webb Company is the one of the world's leading designers, manufacturers, and installers of custom material handling systems. Founded in 1919, the company has been at the forefront of innovations in material handling since the inception of the industry. Jervis B. Webb's 34 operations worldwide supply integrated material handling systems to a multitude of industries including airline, aluminum, automotive, transportation, warehousing, primary metals, chemicals, publishing, and waste management.

Company Perspectives:

Our company was founded in 1919 by Jervis B. Webb, an engineer who developed the forged rivetless chain conveyor. This invention revolutionized the automotive industry

Jervis B. Webb Company was founded in 1919 in Detroit, Michigan, by Jervis Bennett Webb, a young mechanical engineer. While working for the Johns-Manville Company in the Pennsylvania coal fields, Webb had modified a forged chain used in anthracite mining operations for use as a conveyor of industrial equipment. Realizing the potential of this chain for the assembly line production that was beginning to reshape American industry in the early 20th century, Webb set out to reduce the 30 pounds per foot weight of the chain and to adapt it for assembly line use. The resulting rivetless, forged chain, dubbed the "Keystone" chain because of its Pennsylvania origins, could go from slack to taut quickly without breaking yet could be taken apart and assembled by hand, making it more versatile than a traditional riveted chain.

and was the first in a long continuous line of Webb Company innovations. Our mission is to engineer, manufacture, and install material handling systems that increase productivity, improve product quality, and provide production flexibility--all while decreasing lead time and inventory requirements.

It was the automobile industry that led the way in the development of the assembly line method of production and it was to this industry that Webb turned to try to sell his new invention. Although Ford had been using a line process to construct his Model T since 1908, in these early plants men had manually pulled the automobile chassis along the assembly line with a rope while assembly workers had added the necessary parts. Powered by a motor, Webb's Keystone chain, installed on the floor, was attached to four wheeled carts that carried the chassis along the line. In 1920 Webb received his first order for the new conveyor system from the Studebaker Automobile Company. Although the mechanized system increased the speed and efficiency of manufacture, the permanently installed, floor-laid chain impeded movement through the plant and made it difficult to get maximum usage out of the available floor space. Intent on selling his system to the larger automakers like Ford, Webb hit upon the idea of taking the chain off of the floor and mounting it overhead. This would free up valuable floor space, allow greater access to the automobile, and provide more freedom of movement for workers. Webb sold the first version of his overhead conveyor to the Fisher Body Company in Detroit in 1921.

Although Ford expressed interest in Webb's idea, the $14 per foot price tag for installation of the system was prohibitive. Convinced of the value of the overhead conveyor, Webb devised a system of I-beams to carry the Keystone chain. The chain, powered by a caterpillar drive, would pull the automobile chassis along the line by means of simple trolleys which themselves hung on the I-beams by roller skate wheels. The simplicity of this design and its use of readily available, inexpensive hardware reduced the price of the system to $3 per foot, making it economical for use in larger plants. In 1922, Henry Ford agreed to install the new conveyor system in his Walkerville, Ontario, Canada engine and transmission manufacturing plant. Following the success of this trial installation, Ford signed a contract with the Jervis B. Webb Company to supply 30 miles of overhead conveyors to be installed in Ford plants across the United States and Canada. This purchase transformed the company from a small innovative engineering firm to a major manufacturer of material handling systems.

In order to accommodate the demands of the Ford order, Webb purchased land on Alpine Avenue in Detroit where he built a large manufacturing complex. By the end of the decade the Jervis B. Webb Company had established itself as a major force in the growing field of mass production technology. Webb became the holder of a number of patents that were crucial to the development of the material handling industry, including the trolley system for the overhead power conveyor, the caterpillar drive motor for continuous conveyor systems, and the multi-powered equalizing drive that was necessary to maintain smooth flow through in-plant production operations.

By the 1930s Webb's overhead conveyor had become the most widely used system in the automobile industry. While the invention had the advantage of freeing up the factory floor, a snafu at one part of the line would cause jamming further along and new production patterns required a major overhaul of the conveyor system. In 1939, in order to solve these problems, Webb introduced the power and free conveyor, a system that was to revolutionize the material handling industry. The power and free conveyor was a dual track system that retained the continuously moving overhead trolley but added a channel track below to carry free trolleys. The powered overhead trolleys pushed the free trolleys by means of downward protruding rods that met upward protruding dogs mounted on the free trolleys. The free trolleys could be easily detached from the overhead powered system, making it possible to divert loads without shutting down the entire system. The floor track was laid flush to allow free movement across the factory floor. The flexibility of the power and free model meant that the system could accommodate unbalanced operations and could allow material to recirculate. In addition the system could be expanded or reworked easily to meet changing production requirements. By the end of the next decade Webb's power and free system was in use in virtually every automotive assembly plant in the United States and Canada.

In 1938 Jervis B. Webb suffered a breakdown in health and his sons Jervis C. and George Webb took on much of the responsibility for management of the company, although Jervis B. retained the title of chairman until his death in 1952. Like most American industry, the Jervis B. Webb Company flourished during World War II. The Webb plants worked 12 hours a day, 7 days a week throughout the war to produce the large number of conveyor systems that were needed to manufacture war-related products.

With the experience gained during the war in the design of conveyor systems for a variety of non-automotive products, the company began after the war to look outside the auto industry for new customers. The company's first major non-automotive project was the design of a material handling system to carry logs from the river to the pulp mill for the Macon Kraft Company's pulp and paper mill in Georgia. This was the forerunner of a number of heavy load, bulk applications designed by the company, most notably the handling of coal in power generation facilities.

In 1948 the Jervis B. Webb Company entered the warehousing/distribution industry with the introduction of the Towveyor floor tow-line conveying system. The Towveyor was used to move individually loaded four wheel carts automatically on a fixed path. Webb's Keystone chain was set into fabricated channels and powered by Webb's caterpillar drive system. The carts were equipped with a steel probe which automatically engaged the moving chain when slipped into the track. The track itself was installed flush with the floor surface to allow free movement of traffic across the warehouse floor. The economical Towveyor system, installed first at the Crown Zellerback Company warehouse in California, was a huge success and became the basis for a line of automatic conveying products that remained one of the mainstays of the company's business for the next half century.

The late 1940s and early 1950s was a period of expansion for the Detroit-based company, now under the management of the second generation of Webbs. In 1949 the growth of industrialization in the western United States spurred the company to form the Jervis B. Webb Company of California, a full service facility that provided engineering, fabrication, installation, and service for Webb's full line of conveyors and material handling systems. In the same year a similar full service facility, Jervis B. Webb Company of Canada, was opened to serve the Canadian market; a southern affiliate, the Jervis B. Webb Company of Georgia, followed in 1955.

With the increasing role of electronic automation used in the Jervis B. Webb conveyor systems, the company decided to form a separate subsidiary to handle the engineering of

control systems for industry. The Control Engineering Company, founded in 1949, became the source not only for the controls of Webb conveyor systems but also for a variety of other industrial processing controls. Five years later it became apparent that the electrical engineering on these control systems was a specialized sub-component that merited its own division and the Webb Electric Company was formed.

In 1951 the company made its first venture outside of the materials handling industry with the formation of the Webb Forging Company, a facility that was to provide a consistent source for close tolerance forgings for Webb and other conveyor manufacturers. In a 1985 interview with *Management Review,* Jervis C. Webb reflected on the challenges of this first foray outside of the business he had grown up with. "We bought equipment and buildings and added people. The trouble was that we added *our* people. It took us six months to discover that forging was a business in itself. So we got the people who knew the business--and then we prospered."

It was also in the early 1950s that the Jervis B. Webb Company began to reach out to the international market with the formation of the Jervis B. Webb International Company. Company management made the decision to enter the international arena through 20-year licensing agreements with foreign manufacturers. In a 1985 interview with *Oakland Business Monthly* Jervis C. Webb commented on the company's international strategy: "At the time, when we went into this method [of licensing], rather than trying to build subsidiaries or joint ventures or that sort of thing, the overriding reason we did it was because we didn't have the money to do otherwise. And we were told that they would very easily think that once they got our know-how, why renew for another 20 years or why even continue to the end of 20? But it hasn't happened that way, which I think is a compliment to our showing progress all through this whole period." The company's international operations flourished, with long-term licensing agreements contracted in 18 countries by the 1990s.

Jervis B. Webb Company continued to diversify into non-automotive applications through the 1960s and 1970s. In the late 1950s the company had engineered an experimental bulk mail sorter for the Detroit Post Office and, following the success of this venture, was awarded the contract for the first fully automated U.S. Post Office in Providence, Rhode Island. Over the next 10 years Webb was responsible for the design of sorting systems for almost half of the major postal facilities in the United States, as well as a substantial number abroad.

In addition to applying the company's conveyor technology to new industries, Webb introduced new product lines. In the early 1960s the company came out with a line of Automatic Guided Vehicles (AGVs) that would eventually be sold to a variety of industries, including storage warehouses, the armed services, airlines, and health care. These AGVs were driverless vehicles that could be guided over relatively long distances by means of low frequency signals transmitted through in-floor guidepath wires. One unconventional application for these vehicles was their use in hospitals where they delivered food and medication to patients' rooms on a set schedule. More typically they were used in industrial applications in which material throughput and distance traveled did not warrant a conveyor or where distances were too long for efficient use of fork trucks.

Another major new arena for the Jervis B. Webb Company in the 1970s was the development of automated storage and retrieval systems. These systems became increasingly desirable through the 1980s and 1990s as just-in-time manufacturing demanded careful control over inventory and storage. The company's presence in this field was augmented in 1977 with the acquisition of the Triax Company of Cleveland, Ohio, the company that pioneered automatic storage and retrieval in the 1950s.

The most important development in material handling through the last quarter of this century

was the advent of computerization. Jervis B. Webb Company entered this field comparatively early with the 1967 purchase of the Ann Arbor Computer Corporation, a company that had been instrumental in Jervis B. Webb's design of the first computerized material handling system some two years earlier. This subsidiary would design computerized control systems for the company's material handling equipment including its storage and retrieval systems and AGVs. In the late 1980s Ann Arbor Computer developed a very successful automatic personal computer-operated inventory management system, called PC AIM, that allowed companies to integrate data management from every level of operation.

Largely in response to the introduction of robotics in automotive assembly, the overhead power and free system that had been the mainstay of the Jervis B. Webb line for decades was literally turned upside down in the mid-1980s. The company's inverted power and free system used a pedestal carrier installed on a floor conveyor, allowing greater access to the vehicle for robotic assembly equipment. Jervis C. Webb commented on the new system in a 1985 interview with *Management Review*: "Dad would turn over in his grave, but I think he would understand the wave of the future and approve of what we were doing."

Jervis B. Webb Company remained a family run company through the late 1990s. As Jervis C. and George Webb reached retirement age, a third generation of Webbs appeared ready to replace them in the top management positions. Out of its new world headquarters in Farmington Hills, Michigan, the company ran 15 operations in the United States and Canada, four international manufacturing operations (in England, Australia, India, and China) and 13 licensees in locations around the world. The annual performance of this intensely private company is difficult to gauge but its leadership position in the American materials handling industry appears solidly entrenched.

Principal Subsidiaries

Jervis B. Webb Company of Georgia; Ann Arbor Computer; Control Engineering Company; Webb-Triax Company; Webb Electric Company; Webb Forging Company; Webb-Materials Handling Equipment; Jervis B. Webb Company of Canada, Ltd.; Jervis B. Webb Company, Ltd. (U.K.); Webb-Conveyor Company of Australia Pty. Ltd.; Europa Engineering Ltd. (U.K.); Webb India Ltd.; Chengde-Webb Conveyors Machinery Company Ltd. (China).

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— *Hilary Gopnik*